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**RICKETTSIA FELIS OUTER MEMBRANE PROTEIN**

**ABSTRACT OF THE DISCLOSURE**

The present invention is directed to isolated  
5 nucleic acid molecules encoding Rickettsia felis outer  
membrane proteins (R. felis omp). Expression vectors and  
host cells comprising the nucleic acid molecules are also  
provided, as well as methods for increasing or decreasing  
the expression of R. felis omp in host cells. The  
10 invention further provides a method of screening a  
substance for the ability of the substance to modify R.  
felis omp function, and a method for isolating other R.  
felis omp molecules. DNA oligomers capable of  
hybridizing to the nucleic acid molecule encoding the R.  
15 felis omp are provided, which can be used to detect R.  
felis omp in a sample. An isolated R. felis omp is also  
provided. Antibodies specific for the protein, and  
fragments thereof, are provided, as are compositions  
comprising the protein and a compatible carrier. The  
20 subject invention further provides a method of preventing  
R. felis infections by R. felis present in a carrier  
host, and a method of reducing R. felis infection of a  
carrier host.